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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,697	12/05/2003	You-Pang Wei	033994-004	4576
21839	7590	02/23/2006	EXAMINER	
BUCHANAN INGERSOLL PC (INCLUDING BURNS, DOANE, SWECKER & MATHIS) POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			DIMYAN, MAGID Y	
			ART UNIT	PAPER NUMBER
			2825	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,697

Applicant(s)

WEI ET AL.

Examiner

Magid Y. Dimyan

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/03/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This is pertaining to Application No. 10/729,697 filed 05 December 2003. Claims 1 – 18 remain pending in this Application.

Specification

2. The disclosure is objected to because of the following informalities:
- Applicants are requested to include the Application numbers (10/729,596, 10/729,785 and 10/729,701) of all three co-pending patent applications cited in paragraphs 0015 and 0017 of the specification.
 - Applicants refer to Fig. 1 in the specification (paragraphs 0012 – 0016), whereas the figures provided by Applicants are labeled "Fig. 1(a)" and "Fig. 1(b)".

Appropriate correction is required.

Claim Objections

3. Claims 14 and 15 are objected to because of the following informalities: in claims 14 and 15, line 1, delete "method" and insert –system–.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 8, 10, 11, 16 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,990,646 B2 to Yoshikawa.

6. Referring to claims 1 and 8, Yoshikawa discloses a method (claim 1) and a system (claim 8 - see also col. 3, ll. 45 – 50, which cites a program used in a system) of determining an optimized parameter (setup and hold time) for a circuit simulation (see Fig. 27; col. 3, line 45 – col. 4, line 25) comprising: (a) determining a path for the circuit to analyze (see Figs. 2A, 2B, 3; col. 2, line 64 – col. 3, line 40); (b) setting an initial maximum and minimum optimization parameter and simulating the circuit with the initial minimum optimization parameter (see Figs. 3~~4~~ and 8; col. 9, line 60 – col. 10, line 29); (c) calculating a current primary criteria (i.e., timing constraint) parameter from the circuit simulation with the initial minimum optimization parameter and simulating the circuit with the initial maximum optimization parameter (see again Figs. 3 and 4; col. 6, line 47 – col. 8, line 10); and (d) determining whether the simulations with the initial maximum and minimum optimization parameter (setup and hold time) generate the same status (i.e., pass/fail status), and if they do not indicate the same status, continue to recalculate the optimization parameter and simulating the circuit until the primary criteria parameter converges to a prescribed value (see again Figs. 4, 6, 8 and 27; col. 18, ll. 1 – 47). Thus, it is clear that Yoshikawa teaches all the claimed limitations.

7. As per claims 10 and 11, see Fig. 3, block F22; col. 6, line 47 – col. 7, line 13, which recite the claimed elements pertaining to the computer configured to perform

Art Unit: 2825

further reliability checks (in order to create the layout file), based on a user assigned algorithm, after determining whether the simulations generate the same status.

8. Regarding claim 16, Yoshikawa discloses a method of simultaneously determining an optimized parameter (setup/hold time) and performing circuit simulations (see Fig. 27; col. 3, line 45 – col. 4, line 25) comprising: (a) defining a path for the circuit to be analyzed (see Figs. 2A, 2B, 3; col. 2, line 64 – col. 3, line 40); simulating the circuit with an initial optimization parameter (see Fig. 4; col. 7, line 14 – col. 8, line 10); and (c) determining an ideal optimization parameter from the circuit simulation by further simulating the circuit until a criterion parameter converges to a prescribed value (see again Figs. 4, 6, 8 and 27; col. 18, ll. 1 – 47). Thus, Yoshikawa teaches all the claimed limitations.

9. Claim 17 contains similar limitations found in claim 1, and therefore the same rejections also apply.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2 – 7, 9, 12 – 15 and 18 are rejected under 35 U.S.C. 103(a) as being obvious over Yoshikawa in view of U.S. patent No. 6,249,901 B1 to Yuan et al. (hereinafter, "Yuan").

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

12. Pursuant to claims 2 – 5, the teachings of Yoshikawa pertaining to a method and system for determining an optimized parameter (setup/hold time) for a circuit simulation are cited in (6) – (8) above, and described in more detail in his invention. However, Yoshikawa is silent on the additional claimed limitations regarding using the current primary criteria parameter as a bisection error of the simulation (claim 2), determining further reliability checks on the circuit (claim 3), recalculating the optimization parameter by averaging the initial minimum and maximum optimization parameters (claim 4), and determining convergence through recalculation (claim 5). On the other hand, Yuan

Art Unit: 2825

discloses an automatic memory (i.e., circuit) characterization process that in fact teaches all the claimed elements in his invention: using a bisection process (Figs. 5 and 10; col. 19, line 60 – col. 20, line 47; col. 21, line 52 – col. 22, line 30), determining further reliability checks on the circuit (Figs. 5, 6A), recalculating the optimization parameter by averaging the initial minimum and maximum optimization parameters (col. 21, line 35 – col. 22, line 30), and determining convergence through recalculation (Fig. 5; col. 22, ll. 3 – 33). Since, as stated by Yuan (col. 5, line 64 – col. 6, line 10), this method teaches an automatic circuit characterization system that provides improved accuracy in determining timing characteristics of the circuit, as well as the ability to characterize timing parameters of a large number of circuit instances in a relatively short period of time with minimal effort by the user, it would therefore be obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Yoshikawa and Yuan to obtain the same claimed inventions.

13. As for claims 6 and 7, see Yuan – Figs. 11A and 11B; col. 20, line 48 – col. 22, line 64, which teach the claimed limitations pertaining to the setting of the optimization parameter (setup/hold time) when the primary criteria parameter (bisection error) does not converge.

14. Claims 9 and 18 contain the same limitations found in claim 2, and thus the same rejections also apply.

15. Claims 12, 13, 14 and 15 contain the same limitations as in claims 4, 5, 6 and 7, respectively, and therefore the same rejections apply.

Art Unit: 2825

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magid Y. Dimyan whose telephone number is (571) 272-1889. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on (571) 272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Magid Y Dimyan
Examiner
Art Unit 2825

myd
15 February 2006



VUTHE SIEK
PRIMARY EXAMINER